

PROJECT TITLE : BIOTECHNOLOGY
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WRITTEN BY : D. SCHULTHESS

Nitrate electrode (1)

An Orion nitrate electrode is currently under test. The company claims that one can measure continuously the nitrate content in liquids.

Acid consumption (2)

Trials of the pilot plant showed different results concerning the acid consumption in the NINO-process than those we have found in the laboratory. We therefore determine these values again at different pH-values and initial phosphate concentrations. We could confirm the consumption of 31 g phosphoric acid (35 %) per liter of denitrated extract at a pH of 4.0. This value is independent of the dilution rate.

O₂/CO₂-Measurement (3)

Having still some troubles with our CO₂/O₂ determination in the off-gas of fermenters we set up a continuous denitration using a synthetic culture medium. In this trial we could show that we need at least 3 days to reach true steady-state conditions. It however has to be mentioned that the denitration is also working without having a true steady-state. We try now to have analogous trials done in the laboratory and pilot plant fermenters

Cellulase (4)

The production of cellulase by *Trichoderma viride* DSM 769 was further tested. An addition of glucose at a maximal level of 0.2 % increases the yield of this enzyme. The same is true by using Tween 80 in a concentration between 0.1 and 0.5 %.

Freeze-dryer

The freeze-dryer has been received and tested. We are able to produce freeze-dried Ninomass and can now cover the needs of the Richmond flavor department.

Miscellaneous

- An annual report is in preparation and will be distributed in March.
- The particle size distribution of a sepiolithe powder was determined by coulter counter (request of M. U. Nyffeler).
- Media for tissue cultures were prepared as a service for an extramural project.

References

1. J. Berney, Notebook 128, p. 39.
2. M.-F. Mangilli, Notebook 791205, p. 9-14.
3. J. Berney, Notebook 128, p. 36-38.
4. A. Hänggi, Notebook 790904, p. 25-28.

Schulthess

D. Schulthess